ABSTRACT OF THE DISCLOSURE

A packet receiving-transmitting method is provided for use on a packet-switching network, such as Ethernet, for the purpose of handling packets more efficiently than the prior art. By this method, each received packet is stored in a packet

5   buffer of a fixed size and associated with just one descriptor. Based on a threshold determined by the network protocol, each packet buffer is partitioned into a plurality of segments, each having an ending point linked to an Early Receive/Transmit interrupt signal with the ending point of the packet buffer being linked to an OK interrupt signal. In response to each Early Receive/Transmit interrupt signal, the packet data stored are

10   retrieved and forwarded; and in response to the OK interrupt signal, all the remaining packet data in the packet buffer are retrieved and forwarded. After this a write-back operation is performed on the associated descriptor so as to reset the descriptor to unused status. This method can help allow the memory allocation to each received packet to be more efficient. Moreover, it can help reduce the total number of required

15   interrupts during the receiving-transmitting operation for each received packet, and also can help reduce the total number of descriptor write-back operations for each received packet. This method is therefore significantly more advantageous in terms of system performance than the prior art.